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ABSTRACT

Praise and criticism data were collected during a two-year correlational study of a selected sample of second- and third-grade teachers chosen for their consistency in producing student learning gains averaged over four years, and these data were analyzed to determine the effect that praise, criticism, rewards, and punishment had on learning gains. Data on motivations, incentive, and punishment differed considerably by socioeconomic status (SES). In low SES schools, praise was regularly but weakly associated with learning gains on several measures, but it was relatively unimportant in high SES classes. Criticism was negatively related in low SES classes, but positively related in high SES classes (although absolute incidence of both types of evaluative comments were low). Symbolic rewards (stars, smiling faces) were moderately effective motivators in both high and low SES classes, but verbal praise and the "reward" of monitoring duties were not. In low SES classes, neither these symbolic rewards nor punishment of any sort were strongly related to student gains. The most effective way of dealing with misbehavior in these classes was through an individual conference with the student. The main factor in the low SES classes was the teacher's ability to motivate the student to become actively engaged in the learning process to the point that he or she would answer questions in public response situations and work persistently on seatwork. Successful teachers in both kinds of schools communicated high expectations, but the successful teachers in high SES schools did so through a critical demandingness, while the successful teachers in low SES schools did so through patience and encouragement. (MJB)

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# "Relationship of Teacher Praise and Criticism to Student Outcomes"[1]

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The present paper was one of four presented at a "related papers" session at the 1975 annual meeting of the American Educational Research Association, entitled "Teacher Behavior and Student Outcomes: Texas Teacher Effectiveness Study."

Papers in the session included:

1. "Teacher Behaviors Related to Learning by Low vs. High Socio-economic Status Early Elementary Students," by Jere E. Brophy.
2. "Relationship of Teacher Praise and Criticism to Student Outcomes," by Carolyn M. Evertson.
3. "Teacher Feedback to Children's Answers: Process-Product Relationships," by Linda L. Mahaffey, Jere E. Brophy, and Carolyn M. Evertson.
4. "Error Rates and Question Difficulty Related to Elementary Children's Learning," by W. John Crawford, Carol E. King, Jere E. Brophy, and Carolyn M. Evertson.

Relationship of Teacher Praise and Criticism to Student Outcomes

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Praise and criticism data reported were collected during a two-year correlational study of a selected sample of second and third grade teachers chosen for their consistency in producing student learning gains averaged over four years. In low SES schools praise was regularly but weakly associated with learning gains on several measures, but was relatively unimportant in high SES classes. Criticism was negatively related in low SES but positively so in high SES classrooms (although absolute incidence of both types of evaluative comments were low). Possible reasons for these interactions are discussed.

The following paper is one of four related papers presenting data from the Texas Teacher Effectiveness Study. The praise and criticism findings reported in this paper are from low and high inference measures and teacher questionnaire and interview data collected from a sample of second and third grade teachers selected for their consistency in producing student learning gains on the Metropolitan Achievement Tests over three consecutive years. Residual gains for each student were computed within each year, within each subtest, within sex, and within Title I versus non-Title I schools (because different tests were used in these two different kinds of schools). These residual gain scores for individual students were then summed and averaged to produce a mean residual gain for each teacher's class. This was done for three consecutive years for a total of 165 teachers. From these, those who were most consistent across the five subtests, the two sexes, and the three years of data were selected for study. Consistent teachers were selected for the study because it was felt that a group of consistent experienced teachers would be more likely to have a discernible teaching style which would be the most likely to show relationships between teacher behaviors and student outcomes. Detailed reports of the teacher selection process, the rationale behind it, and the statistics involved are listed in the bibliography at the end of this paper.

The two-year study included 31 teachers who were observed in the first year for about 10 hours each, and 28 teachers who were observed in the second year for about 30 hours each. Nineteen teachers were observed in both years of the study.

The main low inference instrument used was an expanded version of the Brophy-Good Dyadic Interaction System (Brophy and Good, 1970). This expanded version allowed for the coding of a number of contextual and teacher-student interaction variables. The instrument also provided for coding of teacher evaluative comments in several contexts: (1) following public response opportunities, the teacher may praise or criticize a student's answer depending upon its correctness (i.e., such comments as "That's a good answer, John," or "You should have remembered that from last week," were coded along with other teacher feedback); (2) Frequency counts also were made in situations where the student initiated the interaction publicly with a question or comment. Coders noted whether the teacher praised or criticized the contribution and/or the student's behavior.; (3) Evaluative comments were also coded in private situations, both where the child initiated the contact and where the teacher initiated the contact by going to the child's desk. While noting the length of the feedback, coders also noted any teacher praise or criticism given to the student for his academic work; and (4) Situations where teachers either praised or criticized a student's classroom behavior were also noted and these were coded as to the degree of the severity of the behavior. Reactions to misbehavior were coded either as warnings or as criticisms. Praise reactions to good behavior also were tallied.

In addition to the low inference coding system, coders filled out several high inference ratings during and after several visits to the classrooms. Two types of instruments were used: (1) a set of 12 observation scales, developed by Emmer and Peck (1973), which included ratings of positive and negative classroom climate as well as measures of clarity, enthusiasm,

task orientation, and student attention. The ratings of positive and negative feedback were defined chiefly as praise or approval given students or criticism or disapproval and hostility given to students. (2) A set of checklists also were completed by coders following observations. These assessed a given teacher's use of incentives or rewards other than praise (such as public recognition, tokens, or special privileges) and punishments other than criticism (such as sending notes home to parents, spanking, staying after school). All of the above measures were replicated across the two years of the study.

Other data from the second year included interview and questionnaire responses in which teachers reported their preference for and use of praise and criticism as well as other motivational techniques or methods of reinforcement. Teachers also were asked to give their opinions on a variety of classroom methods and techniques. The questionnaires and interviews were designed to get information concerning teacher beliefs, attitudes and practices that could not be observed directly in the classroom, such as teacher preparation, test construction, or classroom organization.

These self report data, along with the high and low inference measures, were correlated with pupil mean residual gain scores. Curvilinear relationships between these presage and process measures and the product measures also were computed. All data were analyzed for the total sample and for high and low SES subsets.

Praise

First, it should be noted that both praise and criticism were infrequent; in some cases there simply were not enough data to analyze or interpret meaningfully. When instances did occur, the relationships were complex and differed

according to SES level (high or low) of the classrooms. In general, the most successful low SES teachers motivated primarily through gentle and positive encouragement and praise, while the successful high SES teachers motivated through challenge and through a critical demandingness which involved communicating high expectations to their students and criticizing them for failing to meet them.

Thus, praise rarely correlated positively with student learning gains in high SES schools, although it correlated positively fairly often in low SES schools. In general, though, praise did not correlate nearly as positively with learning gains as was expected on the basis of previous literature. Praise tends to be favored by teacher education textbook writers of every description, ranging from self theorists who see it as important for building self esteem, to behavior modifiers who see it as the major method of social reinforcement. However, in both years of our study, praise tended to correlate negatively with learning gains in high SES students and positively but very weakly with learning gains in low SES students (the nature of these correlations varied with context, however, as will be explained below).

The strongest negative correlations regarding praise were for praise which occurred in student initiated private interactions. Most of these were situations in which the student finished his assignment and then came up to the teacher to show it to her. Possibly a good portion of these interactions were initiated by students who were somewhat dependent upon the teacher and perhaps overly concerned with getting praise from her. In any case, our data suggest that teachers who responded positively and did give praise in such situations were <u>less</u> successful in producing

student learning gains than teachers who did not provide praise at these times. In contrast, praise during teacher initiated work interactions tended to correlate positively with student learning gains, particularly among low SES children. Our interpretation of this contextual difference involves two separate considerations.

First, the contextual difference (teacher vs. student initiation of interaction) probably made a difference in who was praised and what was praised. Teachers with especially high scores for praise in student initiated contacts possibly were being "conditioned" by their more dependent and approval-seeking students to provide praise upon "demand." While this might have had some benefit to the student who sought the praise, it seems reasonable to suppose that frequent interactions of this kind could have produced classrooms marked by over-concern with teacher praise at the expense of curriculum content.

Although data unfortunately were not available on individual students, our observers' impressions were that a large majority of the student initiated interactions which led to teacher praise were initiated by a small number of students who dominated the teacher's attention. Where a greater proportion of teacher praise was given during teacher initiated interactions, the praise seemed to be spread around more evenly among the students.

A second factor connected with the contextual difference of teacher vs. student initiation of the interaction concerns the quality of the praise. Again, although systematic data were not available, our observers believed that teacher praise in student initiated situations tended to be brief, perfunctory, and generally lacking in both affect and specificity. In contrast, praise occurring in teacher initiated interactions tended to be

more specific (the teacher indicated in some detail what it was about the student's work that was praiseworthy, as opposed to giving the student a perfunctory "That's good"), and it tended to be delivered in a manner that suggested more credibility and positive affect.

A third factor that could have made a difference in these findings concerning praise can be extrapolated from child development literature (Kennedy and Willcutt, 1964; Weiner and Kukla, 1970). These investigators discovered an interaction between achievement motivation and the effects of praise vs. criticism on children. Those with high achievement motivation and high actual achievement (corresponding roughly to the high SES students in our study) responded better to criticism than to praise, while those with lower achievement motivation and lower actual achievement (corresponding roughly to the low SES students in our study) responded much better to praise than to criticism.

In short, a student who is accustomed to success, expects success, and is capable of achieving success with reasonable effort tends to respond well, at least in terms of improved achievement, to chiding criticism for failure that results from lack of effort or persistent application of skills. In contrast, the student who is accustomed to failure, expects failure, and has difficulty mastering something even if he persists long and hard is much more likely to be positively affected by encouragement and praise, and more likely to be negatively affected by criticism.

Thus, there are several mutually supportive explanations for the lack of strong positive correlations for praise, and even for the negative correlations occurring in the high SES schools, despite the overwhelming tendency to stress praise as an important teacher technique in the literature. We accept what our data say, although we could caution against

overreacting to them, and particularly against telling teachers not to praise their students. Instead, we think it is important to stress that praise should be individualized and genuine, and that whatever it is that the teacher wishes to praise should be specified in the process of giving the praise, so that the praise does in fact function as a positive incentive or motivator for the student.

Also, it appears important that praise should be given privately, in order to minimize tendencies to create an unhealthy classroom atmosphere by engendering jealousies or holding up certain students as "pets" or examples for their classmates. We suspect that students receiving this kind of praise do not experience it as rewarding, since it might subject them to jealousy and embarrassment. Also, the classmates who observe such praise seem less likely to be positively motivated by it (as would be suggested by the vicarious reinforcement principle) and more likely to be irritated by it.

Our stress on the importance of making praise credible and genuine also draws some support from the child development literature. Several researchers have found that young school age children are differentially sensitive to praise and criticism depending upon what kind of adult it comes from. Criticism tends to have mixed effects whether it comes from male or female adults, but praise tends to be more motivating when it comes from male adults. To put it another way, many young children apparently "tune out" the verbal praise of female adults. Perhaps they are so accustomed to it that it no longer functions as motivation, or perhaps they have good reason not to trust it or to put any great importance upon it. This interpretation is supported by data (Stevenson, 1961) showing that

praise from high status persons is more effective than praise from low status adults, and males usually have more status in the eyes of children than females. In any case, data from several sources agree in suggesting that verbal praise from female teachers simply is not very motivating for young school children.

The exceptions in our data fit in neatly with the available literature. Praise showed positive correlations in teacher initiated private interactions and in reactions to student answers to opinion questions. The former finding suggests the importance of the genuineness factor, while the latter finding suggests the importance of encouraging students who are hesitant or fearful.

Perhaps if we had been able to collect data on individual students and/or to collect data on the qualitative aspects of praise rather than simply the frequency of it, the praise data might have come out more positively. In any case, it is clear that the teachers as a group were not praising very effectively. This was especially true for the teachers in high SES schools, where praise never correlated with student learning gains. Only one self-report item involving the use of praise was correlated with gains (Use of praise as a motivator.) The others were unrelated.

Symbolic Rewards

The use of symbolic rewards, particularly gold stars and smiling faces placed upon papers to be taken home and shown to the parents, or placed on charts in the room, showed consistent positive associations with learning gains. Apparently, the children still were young enough so that symbolic

rewards of this kind were positively motivating. All kinds of involvement of the parents in partnership with the teachers and the school were considered to be important and useful by the teachers, particularly in low SES schools where involvement was more difficult for the parents and the communication gap between school and home was wider. Arranging for positive experiences such as these, in which children could bring home good work and get praise and encouragement from the parents, was considered to be (and apparently was) especially valuable.

No data were available on the use of concrete rewards or their symbolic substitutes, tokens. This was because tokens and concrete rewards were not used in any systematic way by the teachers under study. Both the teachers and the curricula they used were relatively traditional, and no one was systematically implementing a token economy or even a reasonable facsimile of a token economy. A few teachers were using opportunities to work in various learning centers as "rewards" for successfully finishing assignments, but there were not enough data on this practice to allow any conclusions concerning its relationships to student learning gains.

Verbal praise from the teachers was not the only type of "reward" that was ineffective. The technique of "rewarding" students by "allowing" them to perform housekeeping chores or assume monitor duties was consistently negatively associated with student learning gains. Apparently even these young students, despite their general adult orientation and desire to please, did not experience such "rewards" as positively motivating.

The positive results for such behaviors as letting the children go to a learning center or engage in some other self chosen activity upon completion of assignments indicate that the general idea of using privileges

as rewards can be successful, but these specific findings concerning housekeeping and monitor jobs indicate that the children did not consider these as "privileges."

In summary, symbolic rewards, particularly when tied to the operation of taking good work home for parents to inspect, proved to be positively associated with learning gains in both low and high SES schools. This was in sharp contrast to verbal praise from the teacher, which was not associated with learning gains in high SES schools and only weakly positively associated with learning gains in low SES schools. It seems likely that this finding is at least partially a function of the ages of the children; we do not believe that symbolic rewards such as stars or smiling faces would be positively motivating to older students, although symbolic rewards more suitable to the students' ages or levels of development might be.

Criticism

One of the most widely reported and consistently replicated findings in process-product educational research is that criticism correlates negatively with student achievement. However, as noted above, data from child development research suggests an interactional relationship rather than a negative one, and our own findings did indeed reveal interactional relationships and also contextual effects. We believe that we can explain the apparent discrepancies, but first let us describe the nature of the criticism findings in some detail, so that readers are clear about what they both do and do not imply.

As was mentioned earlier, criticism was relatively infrequent, both in its own right and in relationship to praise. Furthermore, even the most critical teachers operated within a general context of warmth and student

orientation, for the most part. Thus, positive correlations between criticism and student learning gains do not mean that the most successful teachers were hypercritical; they mean that the more successful teachers in high SES schools occasionally would criticize a child for poor performance, in contrast to the less successful teachers who rarely or never criticized a child regardless of how poor or inappropriate his performance was. Finally, it should be noted that the criticism measures which correlated positively with student learning gains were confined to criticism of poor responses to questions, poor performance in reading turns, and poor seatwork. That is, they were criticisms for poor academic work.

This pattern of positive relationships between criticism and student learning gains did not hold up for behavioral criticism or for any other forms of negative teacher behavior related to anything other than inadequate student performance on academic tasks. Furthermore, casual observations by our observers suggest that such criticism usually was appropriate, as when teachers criticized children for doing sloppy work or for not paying attention. The latter type of criticism usually only occurred after one or more warnings had preceded it, so that the student in effect was "asking for it."

The outcome of all this is a naturalistic replication in an educational setting of Weiner and Kukla's (1970) findings concerning the interaction of praise and criticism with student achievement levels and achievement motivation in determining the effects of these adult verbal behaviors on student motivation. It appears that criticism which involves gently but firmly chiding a child for working clearly below his capacity and/or for working sloppily has a positively motivating effect on high achieving

children with high achievement motivation (assuming that we can extrapolate this meaning from the SES differences in our data). However, it should be kept in mind that this positive relationship between criticism and student learning gains was obtained only with students who fit this description, only with criticism of academic work, and only when the criticism appeared to be justified and was used relatively infrequently.

The general bulk of our data, as well as evidence from both laboratory and naturalistic field studies in psychology and education, suggest that an approach to motivation which features positive expectations and positive reinforcement, with minimal attention to negative behaviors, is optimal. However, contrary to the dictates of those who would over-simplify behavior modification principles, our data suggest that not all undesirable student behavior should be ignored. Student behavior which is under the control of the student (i.e., he could easily change it if he wanted to), which is clearly inappropriate (i.e., the student "knows better"), and which has persisted despite a combination of positive and encouraging intervention efforts with ignoring inappropriate behavior, calls for some negative intervention in the form of criticism.

Such criticism appears to be increasingly effective to the extent that the student has a strong self concept and clearly is underachieving due to lack of sufficient concentration or effort. We recommend its use in these instances, although we would caution teachers that it is better to err on the side of giving the student the benefit of the doubt than to err on the side of jumping to conclusions and perhaps upsetting or alienating the student unnecessarily, and we also would repeat once again that such criticism is likely to be effective only if it occurs within a broad general

context of warmth and student orientation on the part of the teacher.

Punishment

The findings concerning punishment are similar, for the most part, to the findings concerning criticism. First, the most successful classroom managers were those who organized their classrooms effectively and provided their students with appropriate assignments and materials, so that they kept the students actively engaged in meaningful work for the vast majority of the time, thus minimizing the rates of misbehavior and the need for punishment. However, when punishment was necessary, certain forms of punishment were more useful than others, and the effectiveness of punishment differed according to the SES of the school.

Among the general findings across SES levels, the most important was the one mentioned already: avoiding the need to punish was much more effective than knowing how to punish effectively. A second general finding already mentioned was that relatively mild punishments which involved giving the student information about what was wrong with his behavior and how he should change were more effective than more extreme punishments, particularly punishments which did not involve instructions about how behavior should be changed. Simple warnings and other reactions geared toward changing student behavior were more effective than severe threats or punishments.

For high SES students only, scolding showed occasional positive correlations with student learning gains. This appeared to be part of the general pattern already discussed in some detail: all students flourished best under relatively warm and student oriented teachers, but high SES

students (and probably particularly students with high self esteem and high abilities who tended to goof off occasionally) seemed to improve when criticized or scolded for inappropriate behavior, especially for inappropriate work on assignments.

However, the most effective forms of punishment were not really punishments at all. Instead, they were actions such as keeping the child after school or arranging for an individual conference with him in order to discuss his misbehavior and come to some kind of agreement about how the problem was to be resolved.

Usually, these conferences did not involve any actual punishment, although they sometimes did involve threats of punishment if the student did not respond by changing his behavior to make it more appropriate. Strong punishments, such as spanking or other physical punishment, and strong personal criticism were either unrelated or negatively related to student learning gains. The same was true for teacher attempts to "pass the buck" to someone else by sending the child to the principal or to a school counselor for "discipline." In short, in high SES schools the more successful teachers recognized that problems occurring in the classroom had to be handled by them, and they tended to handle them in individualized ways that were geared to get the problem out for discussion and resolution, as opposed to either trying to avoid the problem by shunting it off to someone else or to overreacting with strong negative punishments.

In low SES schools, contrary to what many might have predicted, punishment appeared to be relatively unimportant. No form of punishment correlated positively or negatively with student learning gains. We suspect that this would not be the case at higher grade levels, where simply

establishing authority in the classroom can be a major task for the teacher. However, in these early grades, some children in low SES schools were primarily passive, anxious, and alienated from learning, so that the teachers had to contend with problems of low self concept and a tendency to withdraw from anxiety-producing situations, rather than with disruptions or challenges to their authority. Consequently, teachers working in low SES schools in these early grades were most successful if they concentrated their efforts on establishing close, warm relationships with their students, providing their students with the encouragement that they needed in order to work consistently at mastering the curriculum, and matching their students' needs and interests with appropriate assignments and materials.

Punishment is primarily a vehicle for stopping the occurrence of objectionable behavior; it is not useful for getting the individual to start some new behavior. We suspect that this is why it was relatively unimportant at these grade levels in the low SES schools in contrast to the high SES schools. In high SES schools, the children were active, and sometimes children who consistently acted out in undesirable ways had to be disciplined through criticism, scolding, or punishment. In low SES schools, in contrast, such acting out was rare at these grade levels, and the teacher had to instead concentrate on getting the students to do things in a positive way rather than to get them to stop doing negative or undesirable things.

Finally, a general finding worth mentioning was that assigning normal school work as punishment was negatively correlated with student learning gains. This seems obvious, although it is done more frequently than might be imagined. In brief, this is an extremely self-defeating practice because it creates or reinforces in the student the idea that ordinary school work

is to be detested and avoided if at all possible. After all, if it is something that the teacher assigns as punishment, why would anybody want to do it voluntarily? Thus, while under some circumstances there might be some point in a punishment such as having a student write out "I must pay attention during reading group" ten or fifteen times, we see no justification under any circumstances for the assignment of ordinary school work as punishment.

Summary

The data on motivation, incentives, and punishment differed considerably by school SES. In high SES classrooms, where the students were generally high achieving and well motivated, sometimes to the point of being overly competitive, the teachers' main task was to provide a variety of challenging stimulation in assignments for the children. Praise, particularly praise of students who approached the teacher seeking it, proved to be negatively related to student learning gains. In contrast, criticism of students for poor work was positively related to learning gains. Symbolic rewards such as stars and smiling faces were effective motivators, but teacher verbal praise and attempts to "reward" children by allowing them to perform monitor duties were not. Although scolding sometimes was effective, the most effective ways of dealing with misbehavior were to have individual conferences with the child or keep him after school to discuss the problem and state expectations for behavioral change, as opposed to more punitive and less informative methods which were negatively related to learning gains.

In contrast, the students in low SES schools were primarily apathetic, anxious, and alienated from learning. Neither rewards nor punishments were particularly important one way or the other in these schools. What was

important was the teacher's ability to motivate the students to become actively engaged in the learning process to the point that they would answer questions in public response situations and work persistently on their seatwork. The most successful teachers did this through a combination of providing a warm, supportive atmosphere, praising students (but doing so mostly in teacher initiated individual contacts), and matching demands and materials to the needs and interests of the students.

Successful teachers in both kinds of schools communicated high expectations, but the successful teachers in high SES schools did so through a critical demandingness, while the successful teachers in low SES schools did so through patience and encouragement.

It was our impression that praise, to the extent that it was effective at all, was effective when given in teacher initiated, private interactions with the student and when it called attention to the student's specific advances over previous levels of knowledge or skill, as opposed to calling attention to the student's standing relative to his classmates. Praise given in response to a student initiated request for it, particularly when it led to a public "fuss" in the classroom, was maladaptive. Reward methods which allowed the student to take home examples of good work to show the parent seemed to be especially effective, both because the students seemed to experience them as particularly rewarding and because they helped engender positive expectations and attitudes in the parents concerning their child and his schoolwork.

Taken together, the data on praise and criticism suggest some interesting relationships between these teacher motivational variables and teachers' expectations for students. All in all, it apears that a tendency

to criticize a student for a poor answer or for poor work is associated with high expectations for that student, and, conversely, that unusually high rates of teacher praise might be expressions of low expectations for a student (attempts to compensate for poor performance by making it up to the student through praising what he does well, attempts to encourage the student, etc.). Of course, we must note again that these observations apply only within the broader context of a warm and supportive teacher-student relationship; they do not imply that teachers should minimize praise and maximize criticism. Nevertheless, rates of praise and criticism sometimes are used as "face valid" measures of appropriate teacher behavior, because it seems obvious that praising children is good and criticizing them is bad. However, our data suggest that the situation is not this simple, and that, under certain circumstances, relatively low rates of praise and high rates of criticism can indicate both good student performance and good teacher-student relationships.

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